WHAT IS CLAIMED IS:

1. A refractory metal plate comprising an oxide coating layer formed by depositing oxide powder of at least one of, or a mixture of oxide powders of two or more of alumina, silica, zirconia, yttria, titania, magnesia, and calcia to at least one surface of a metal composed of one of molybdenum, tungsten, and an alloy of a molybdenum group and a tungsten group, wherein said oxide coating layer covers the whole of said at least one surface so as to inhibit exposure of a base material.

2. The refractory metal plate according to claim 1, wherein at least one kind of said oxide powders is set to 10 μm or less, and said oxide coating layer is obtained by implementing a heat treatment at a temperature depending on the grain size of said powder.

3. The refractory metal plate according to claim 1, wherein a thickness of said oxide coating layer is set to 10 to 300μm.

4. The refractory metal plate according to claim 1, wherein a surface of said oxide coating layer is porous, and a surface roughness thereof is such that Ra is 20μm or less and Rmax is 150μm or less.

5. The refractory metal plate according to claim 1, wherein said metal has a shape of a plate and, in a surface state of the plate as a base plate, a surface roughness thereof is such that Ra is 20μm or less and Rmax is 150μm or less.

6. The refractory metal plate according to claim 1, wherein said oxide coating layer is formed by plasma spraying.

7. The refractory metal plate according to claim 1, wherein said oxide coating layer is formed on a surface of a plate by forming slurry by mixing oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then applying a melting process at a temperature depending on a grain size of the oxides to be deposited.

8. The refractory metal plate according to claim 1, wherein said oxide coating layer is formed by forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit it.

9. A method of producing the refractory metal plate according to claim 1, said method comprising the step of forming an oxide coating layer on a surface of a plate by implementing one of sub-steps of (a) forming slurry by mixing oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then applying a melting process at a temperature depending on a grain size of the oxides to be deposited, (b) forming said oxide coating layer by plasma spraying, and (c) forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit it as said oxide coating layer.

10. A method of producing a setter which is used in sintering and which is formed by the refractory metal plate obtained by using the method according to claim 9.

11. The method according to claim 9, wherein a grain size of at least one kind of the oxide powders is set to 10μm or less.

12. A method of producing a setter which is used in sintering and which is formed by the refractory metal plate obtained by using the method according to claim 11.

13. A setter used in sintering, comprising the refractory metal plate according to claim 1.

14. A refractory metal plate comprising a plate with an oxide coating layer formed by depositing oxide powder of at least one of, or a mixture of oxide powders of two or more of alumina, silica, zirconia, yttria, titania, magnesia, and calcia to at least one surface of said plate, wherein said plate is a molybdenum

plate having a composition of 99.9% or more purity and having a high temperature deformation resistant characteristic, and wherein a size of a disk-shaped crystal grain contained inside said molybdenum plate is such that a ratio of a longer diameter relative to a shorter diameter of a disk surface is four or less, a diameter of a disk surface of said molybdenum plate is 15mm to 150mm, and crystal grains account for 1/5 or more of a thickness in a thickness direction of said molybdenum plate.

15. A setter used in sintering, comprising the refractory metal plate according to claim 14.

16. The refractory metal plate according to claim 14, wherein said oxide coating layer is formed by plasma spraying.

17. The refractory metal plate according to claim 14, wherein said oxide coating layer is formed on a surface of a plate by forming slurry by mixing oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then applying a melting process at a temperature depending on a grain size of the oxides to be deposited.

18. The refractory metal plate according to claim 14, wherein said oxide coating layer is formed by forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit it.

19. A method of producing the refractory metal plate according to claim 14, said method comprising the step of forming an oxide coating layer on a surface of a plate by implementing one of sub-steps of (a) forming slurry by mixing oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then baking and melting it to adhere to the base material at a temperature depending on a grain size of the oxides to be deposited, (b) forming said oxide coating layer by

plasma spraying, and (c) forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit an oxide coating layer.

20. A method of producing a setter which is used in sintering and which is formed by the refractory metal plate obtained by using the method according to claim 19.

21. The method according to claim 14, wherein a grain size of at least one kind of the oxide powders is set to 10μm or less.

22. A method of producing a setter which is used in sintering and which is formed by the refractory metal plate obtained by using the method according to claim 21.

23. A refractory metal plate comprising a plate with an oxide coating layer formed by depositing oxide powder of at least one of, or a mixture of oxide powders of two or more of alumina, silica, zirconia, yttria, titania, magnesia, and calcia to at least one surface of said plate, wherein said plate has a composition of 0.1 to 1.0wt% lanthanum or lanthanum oxides with the remainder composed of molybdenum, has a structure extending in a substantially fixed direction, and is small in deformation amount at a high temperature.

24. The refractory metal plate according to claim 23, wherein said plate has crystal grains exhibiting an interlocking structure in which the structure extends in a fixed direction so as to be recrystallized, and is excellent in processability and high temperature deformation resistance.

25. A setter used in sintering, comprising the refractory metal plate according to claim 23.

26. The refractory metal plate according to claim 23, wherein said oxide coating layer is formed by plasma spraying.

27. The refractory metal plate according to claim 23, wherein said oxide coating layer is formed on a surface of a plate by forming slurry by mixing

oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then applying a melting process at a temperature depending on a grain size of the oxides to be deposited.

28. The refractory metal plate according to claim 23, wherein said oxide coating layer is formed by forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit it.

29. A method of producing the refractory metal plate according to claim 23, said method comprising the step of forming an oxide coating layer by implementing one of sub-steps of (a) forming slurry by mixing oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then melting the slurry to adhere to the base material at a temperature depending on a grain size of the oxides to be deposited, (b) forming said oxide coating layer by plasma spraying, and (c) forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit it.

30. A method of producing a setter which is used in sintering and which is formed by the refractory metal plate obtained by using the method according to claim 29.

31. The method according to claim 23, wherein a grain size of at least one kind of the oxide powders is set to 10μm or less.

32. A method of producing a setter which is used in sintering and which is formed by the refractory metal plate obtained by using the method according to claim 31.

33. A setter which is used in sintering and which comprises the refractory metal plate according to claim 24.

34. The refractory metal plate according to claim 24, wherein said oxide coating layer is formed by plasma spraying.

35. The refractory metal plate according to claim 24, wherein said oxide coating layer is formed on a surface of a plate by forming slurry by mixing oxide with a solvent, painting the slurry with a brush or spraying the slurry on a base material, drying the slurry on the base material, then applying a melting process at a temperature depending on a grain size of the oxides to be deposited.

36. The refractory metal plate according to claim 24, wherein said oxide coating layer is formed by forming an oxide coating layer by the use of a high temperature resistant adhesive, then applying a heat treatment so as to deposit it.